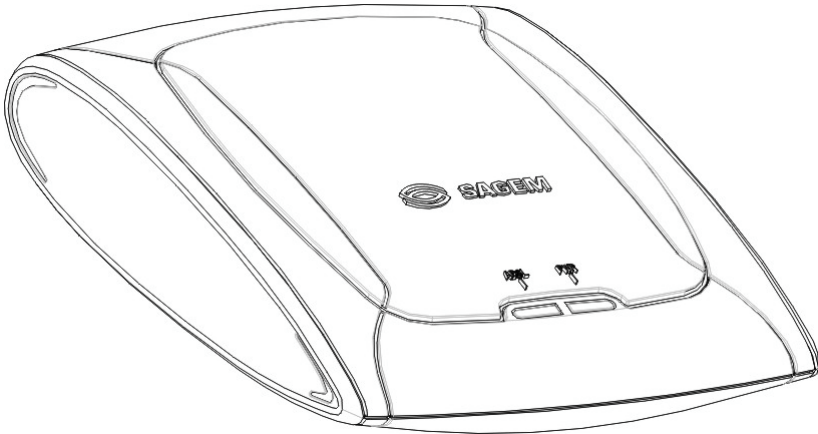


SAGEM F@st™ 900 / 940

ADSL Ethernet Modem



User Guide

Reference : 251 302 301 ed. 6

November 2003 Issue



SAGEM SA closely follows all technical changes and is continually strive to improve its products for the benefit of its customers. It therefore reserves the right to change its documentation accordingly without notice.

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Warning



Warning icon used in this guide



Information icon used in this guide

Safety instructions

Before making any connection, refer to the safety instructions in **Appendix A** of this User Guide.

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1 Overview of the SAGEM F@st™ 900 / 940 modems

1.1 Description

The SAGEM F@st™ 900 / 940¹ modems are ADSL modems with Ethernet interface used to browse the Internet at high speeds using an ADSL compatible telephone line. Their function is to transmit data between a computer (PC or Mac) connected by an Ethernet interface and an Internet Access Provider (IAP), via an ADSL link.

The modem requires no prior installation. It is supplied with the "BridgeMon" diagnostic application.

The SAGEM F@st™ 900 / 940 Ethernet ADSL modem is compatible with two operating modes:

- PPPoE mode: this mode requires the installation of additional software on certain operating systems. Refer to chapter 4.1 for more information
- DHCP mode

Check with your IAP to find out which mode is available on your ADSL line.

¹ SAGEM F@st 900 is an ADSL modem used for POTS lines.
SAGEM F@st 900 is an ADSL modem used for ISDN lines

1.2 Contents of your ADSL pack

Your SAGEM F@st™ 900 / 940 pack contains the following items:

One SAGEM F@st™ 900 / 940 ADSL modem



One mains adapter unit

One RJ11 type ADSL line lead



One crossed UTP RJ45 type Ethernet cable



One modem installation CD-ROM

One CD-ROM for installing the PPPoE client software (optional)



ADSL filters (optional)

Note: This list is not exhaustive. The packaging may also contain safety instructions and other documents.

The modem installation CD-ROM contains:

- the SAGEM F@st™ 900 / 940 modem configuration and diagnostic application (BridgeMon) for Windows® and Macintosh,
- the SAGEM F@st™ 900 / 940 modem User Guide in pdf file format.

| | |
|--------------------------------|--|
| Contents incomplete or damaged | If the package you receive is incomplete or contains damaged items, contact the Internet Access Provider (IAP) supplying your SAGEM F@st™ 900 / 940 modem. |
|--------------------------------|--|

1.3 Prerequisites

| | |
|----------------------------|--|
| Telephone line side | <ul style="list-style-type: none"> ➤ Telephone line supporting ADSL transmission ➤ Internet Access Provider (IAP) subscription ➤ Installation of ADSL filters on each telephone socket used by a terminal (telephone, DECT, fax, answering machine, etc.) |
|----------------------------|--|

| | |
|------------------------------------|---|
| Computer with Ethernet port | <p>The minimum configuration of your computer must be:</p> <ul style="list-style-type: none"> ➤ Windows XP Pentium II, 400 MHz, 128 Mb RAM ➤ Windows 2000 Pentium II, 266 MHz, 64 Mb RAM ➤ Windows ME Pentium II, 233 MHz, 64 Mb RAM ➤ Windows 98 Pentium II, 166 MHz, 32 Mb RAM ➤ MacOS 8.6 - 9.x PowerPC G3, 233 MHz, 64 Mb RAM ➤ MacOS X PowerPC G3, 233 MHz, 128 Mb RAM |
|------------------------------------|---|

| | |
|------------------------------------|--------|
| Free space on your computer | 100 MB |
|------------------------------------|--------|

A WEB browser

| | |
|-------------------|--|
| PPPoE mode | <p>A PPPoE client software utility must be installed on your computer in the case this one is not part of your Operating System. Refer to sub-section 4.1 for more information. Also, your Internet Access Provider (IAP) should provide you with:</p> <ul style="list-style-type: none"> ➤ a user name ➤ a password |
|-------------------|--|

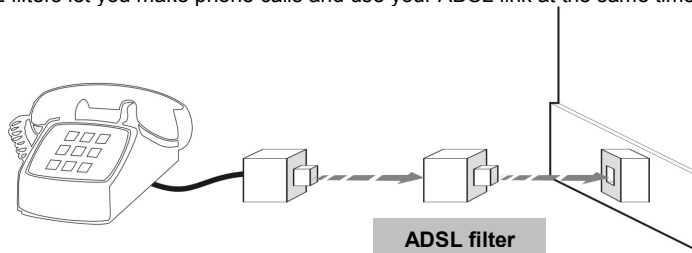
| | |
|------------------|------------------------|
| DHCP mode | No additional software |
|------------------|------------------------|

2 Hardware installation

To install your modem without any difficulty, please follow the steps below in number order.

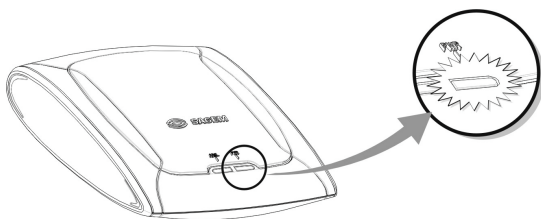
1. *Connect the ADSL filters to your telephone sockets*

The ADSL filters let you make phone calls and use your ADSL link at the same time.



All the sockets used by a telephone device must be fitted with an ADSL filter. This device may be an analog telephone, a DECT phone, an answering machine, a fax machine, set-top-box decoder return channel, etc.

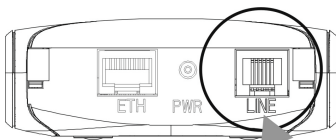
2. *Power up your modem*



For this, use the power supply unit supplied with your modem². When the modem is powered up, the PWR LED lights.

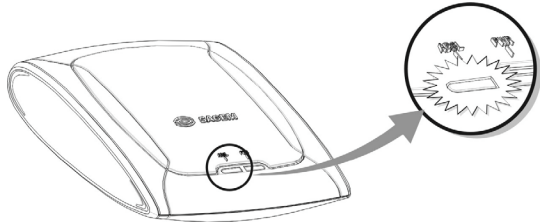
² The use of any other power supply unit will invalidate the manufacturer's warranty

3. Link your modem to your telephone line

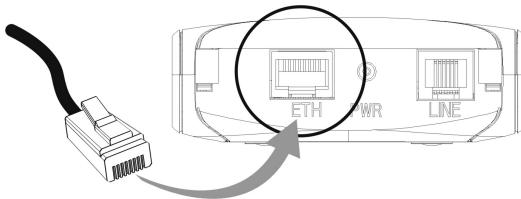


The line lead supplied in your pack should connect the modem to the connector provided on your filter or to a telephone network adapter.

When the modem is linked to the telephone line, ADSL synchronization follows automatically. The ADSL LED is on **permanently**.

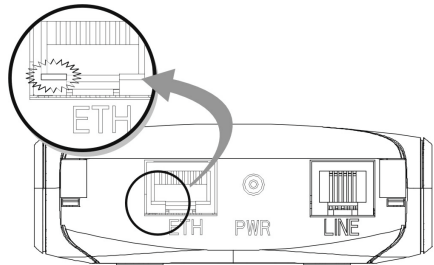


4. Connect your modem to your computer



For this, use the Ethernet cable supplied with your modem.

When the modem is connected to your computer, the Ethernet detection LEDs on your modem and your Ethernet card light up.



At this point, you have completed all the connections required to use your ADSL modem. All you now have to do is install the applications supplied with the modem and configure your Internet access.

3 "BridgeMon" diagnostics application

This application is used to ascertain the status of the ADSL connection and the data transfer rates. For this, it must be installed on the computer connected to the SAGEM F@stTM 900 / 940.

This application is not essential to ADSL modem operation. We do, however, recommend its installation on your computer. It will provide you with a better understanding of your ADSL line status.

3.1 BridgeMon application compatibility information

The BridgeMon diagnostics application is compatible with the following operating systems:

- MicrosoftTM Windows® 98
- MicrosoftTM Windows® Millenium
- MicrosoftTM Windows® 2000
- MicrosoftTM Windows® XP
- MacOS® X
- Linux

3.2 Installation in Windows XP



The **installation** procedure described in the section below was performed using **Windows® XP**. The procedure for other Windows® operating systems (98, Me and 2000) may differ slightly.

- 1 Insert the CD-ROM in your computer's CD-ROM drive; the screen opposite then appears.

From the list, select the language you want and then click **OK**.

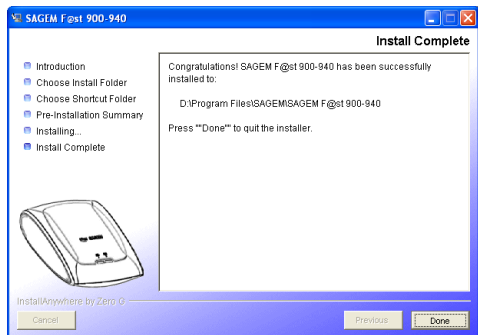
Note: If this screen does not appear: Select Start, Run, then enter:



"<CD-ROM driver letter> :\autorun.exe" (for example e:\autorun.exe) then click OK.

- 2 Then simply follow the instructions displayed by the installation software in the series of screens.
- 3 At the end of installation, the screen opposite appears; installation is now finished.

Click **Done**.



When the "BridgeMon" application is run, the "BridgeMon" icon below appears at the bottom right corner, in your desktop's taskbar, each time you start up Windows (icon shown framed).



3.3 Installation in Mac OS X



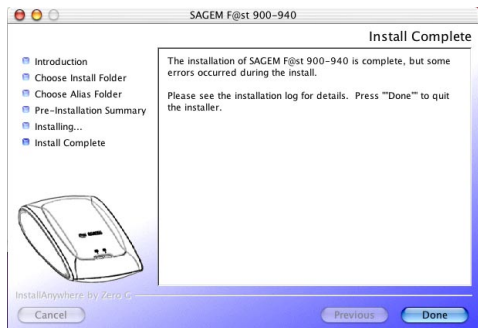
The **installation** procedure described below was performed using **MacOS X.2**. Installation in **MacOS X.1** may differ slightly.

You must have **Administrator** rights to install the BridgeMon application.

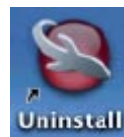
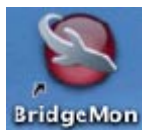
- 1 Insert the CD-ROM in your computer's appropriate CD-ROM drive; an icon appears in the desktop.
- 2 Double-click the icon to display the contents of the CD-ROM.
- 3 Double-click in the **MacOSX** directory, then double-click the **SAGEM F@st 900 / 940** file to run the BridgeMon application's installation program.
- 4 The screen opposite appears. From the list, select the language you want and then click **OK**.



- 5 Then simply follow the instructions displayed by the installation software in the series of screens.
- 6 The screen opposite appears; installation is now finished.
Click **Done**.



At the end of the installation process, the **BridgeMon** diagnostics application icon, the **Uninstall BridgeMon** icon and the User Guide's .pdf file **Manual** icon are created in the desktop.



3.4 Running the BridgeMon application



The application can be run on different computers (PC or Mac) and in different associated operating systems (OS) such as Microsoft™ Windows® 98, ME, 2000, XP, MacOS® X and Linux.

3.4.1 In Windows XP



When the "BridgeMon" application has been installed, the "BridgeMon" icon appears bottom right in your desktop's task bar (icon shown framed), each time you start up Windows.

Double-click this icon, or right click on the icon and then select **BridgeMon**.



3.4.2 In MacOS X



When the "BridgeMon" application has been installed, the **BridgeMon** icon appears on the desktop each time you start up the operating system.



3.5 BridgeMon application functions

Once started, the BridgeMon diagnostics application displays the screen opposite.











The table below gives the various fields and their meanings.

The screenshot shows the BridgeMon application window for SAGEM F@st 900-940. The window has a blue title bar with the text 'SAGEM F@st 900-940' and standard Windows window controls. The main content area is divided into several sections:

- DSL Status:** Labeled 'OPERATIONAL' with a green play button icon to its right.
- Data Rate:** A section containing two rows of data:
 - Transmit:** 320 Kbps
 - Receive:** 1216 Kbps
- Bridge Lock:** A section with three radio buttons: 'Off', 'On', and 'Auto'. The 'Auto' option is selected. Next to 'Auto' is a spin box set to '5' followed by the text 'minutes'. An 'Apply' button is located to the right of the radio buttons.
- Buttons:** At the bottom, there are four buttons: 'Restart', 'SW Upgrade', 'About', and 'Close'.
- Logo:** The SAGEM logo is located in the bottom right corner of the window.

3.5.1 ADSL transmission status

The table below gives the meaning of the different fields and of the buttons.

| Parameter | Value | Flag | Comment |
|-------------------------------------|-----------------------------|--|--|
| DSL Status | Modem not responding |  Red | The modem is not responding to requests from the BridgeMon application (see note). |
| | Searching for modem |  Red | The BridgeMon application is looking for the modem. |
| | Training |  Yellow | The ADSL connection is being set up has been detected, it is ready to connect. |
| | Initializing |  Green | The modem is looking for active VPI / VCI Encaps values, the PPPoE client can be started up. |
| | Operational |  Green | The modem is operational. |
| Data rate | Transmit |  Green | Maximum transmit ADSL rate in kbps. |
| | Receive |  Green | Maximum receive ADSL rate in kbps. |
| Bridge lock See section 0 | Off |  Green | The "Bridge Lock" function is not active; traffic from the Internet is allowed. |
| | On |  Lock | The "Bridge Lock" function is active; traffic from the Internet is blocked |
| | Auto / Minutes |  Lock | The modem has switched to "Bridge Lock" mode automatically after N minutes idle. See section 0 |

Note: If this icon remains permanently red, check if a Firewall is activated (Firewall provided with Windows® XP or software external to your computer). In this case, you have to parameter it to make your modem operational. To allow traffic, enter the following characteristics :

- External Port number : 3456,
- Internal Port number : 3456,
- Transport layer Protocol : UDP.

To set the firewall activated:

- 1) Firewall provided with Windows® XP, refer to sub-section 6.6,
- 2) Software external to your computer, refer to appropriate documentation.

3.5.2 Active buttons

| Button | Meaning |
|-------------------|---|
| Apply | Registers the changes to the "Bridge Lock" mode |
| Restart | Restarts the modem |
| SW Upgrade | Updates the modem's onboard software from the BridgeMon application (see section below) |
| About | Gives the software version of the diagnostics application |
| Close | Closes the BridgeMon diagnostics screen, but keeps the BridgeMon application running |

3.5.3 Updating the modem software from the BridgeMon application

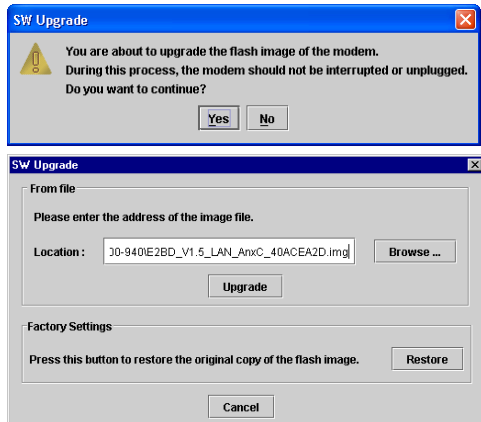
The SAGEM F@st™ 900 / 940 contains a non-volatile memory for saving its onboard software. This software can be updated from the **BridgeMon** application.

Click the **SW Upgrade** button in the "BridgeMon" screen and the screen opposite appears.

Click **Yes** to continue (**No** to abort).

The screen opposite appears.

Click the **Browse** button to select the .img file including the new software then click the **Upgrade** button to update the onboard software in non-volatile memory (save the .img file, the default name and location are displayed in the **Location:** field).



Note: Click **Restore** to restore the modem software as it was at time of factory delivery.

Click **Cancel** to abandon any changes made and return to the BridgeMon screen.

3.5.4 "Bridge Lock" traffic lock function

This function is used to increase the security level on the local area network (LAN) by blocking traffic from the Internet in certain conditions. It is activated in one of two ways, from the "BridgeMon" application:

- Manually
- Automatically

| Command | Description |
|------------------|---|
| Off | Normal operation ("Bridge Lock" function disabled). This value is taken by default. |
| On | The modem blocks all communication from the Internet and to the Internet. To reenale traffic, you must select Bridge Lock : Off again. |
| Automatic | If there is no traffic to the Internet for a certain period of time (configurable), any traffic from the Internet is blocked. When traffic to the Internet is detected, traffic from the Internet is reenabled. |

4 Connection to the Internet

When the modem is correctly connected and the BridgeMon application installed, you still have to set up your Internet connection.

The SAGEM F@st™ 900 / 940 modem is compatible with the following two Internet connection modes:

- PPPoE,
- DHCP.



Check with your IAP to find out which connection mode is available on your ADSL compatible telephone line.

4.1 PPPoE mode

A PPPoE client software utility lets you authenticate yourself and then log on to your IAP. There are two possibilities:



The PPPoE client software is incorporated in the following operating systems:

- Microsoft™ Windows® XP
- MacOS® X
- Linux



The PPPoE client software is not incorporated in the following operating systems:

- Microsoft™ Windows® 98
- Microsoft™ Windows® Millenium
- Microsoft™ Windows® 2000
- MacOS® 8.6
- MacOS® 9

For these operating systems, you must install a third party PPPoE client utility. See section 4.1.5.

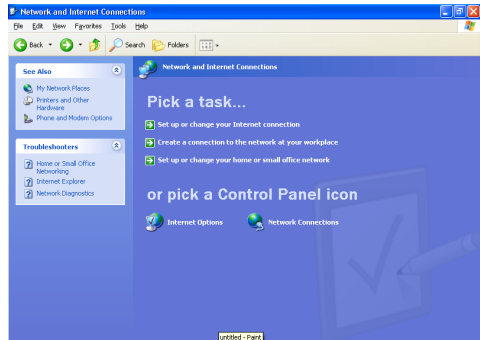
4.1.1 Configuring the PPPoE client in Windows® XP



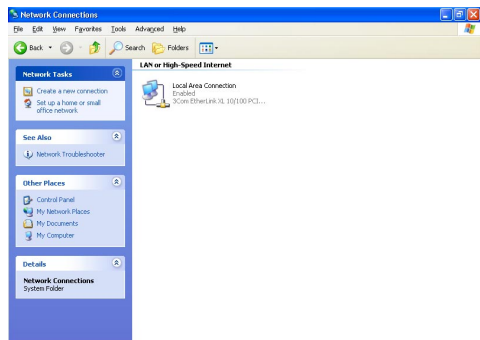
The installation procedure described below does not apply to any Microsoft™ operating systems other than Windows® XP.

- 1 In the **Start** menu, select **Control Panel, Network and Internet Connections**, the screen opposite appears.

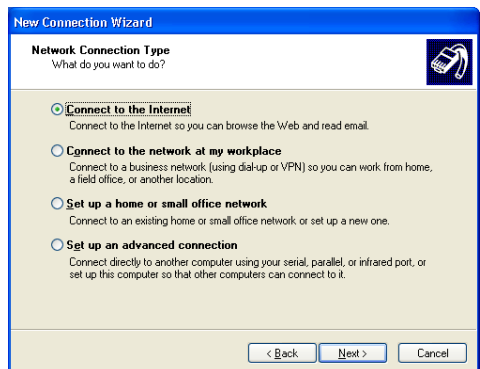
Click **Network Connections**.



- 2 The connection screen appears.
Click **"Create a new connection"** in the **"Network Tasks"** area,
or select **File / New connection** in the menu bar.



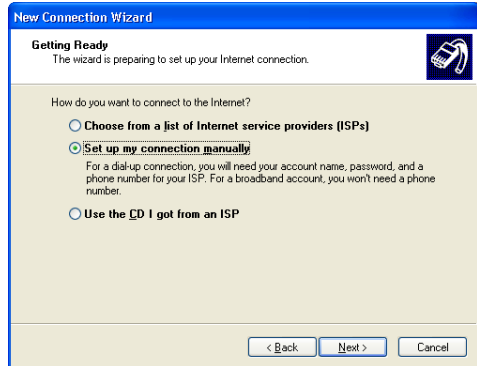
- 3 When the following screen appears, select **"connect to the Internet"**.
Then click **Next**.



- 4 The following screen appears.

Select **"Set up my connection manually"**.

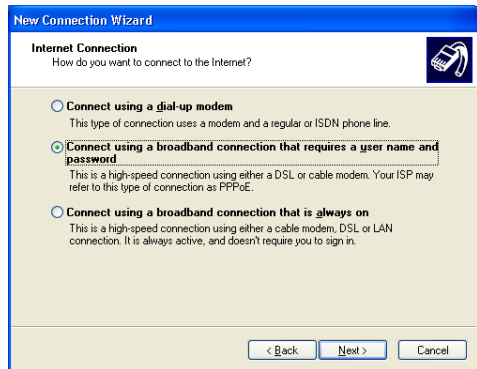
Then click **Next**.



- 5 The following screen appears.

Select **"Connect using a broadband connection that requires a user name and password"**. The PPPoE mode is mentioned here. This is the mode that you want to use.

Then click **Next**.



- 6 The next screen lets you name your connection. Enter a connection name (Internet ADSL, for example).

Then click **Next**.

- 7 The next screen lets you store the information on your Internet account.

Enter your user name,

Enter your password and confirm.

Note: This data will be given to you by your IAP.

Then click **Next**.

- 8 The final screen appears. Check the box if you want to create an **ADSL Internet** shortcut on your desktop. It is recommended to create a shortcut on the desktop.

Finally, click **Finish**.



At this point, your Internet connection is created.
You can now log on to the Internet.

4.1.2 Internet connection in Windows XP

- 1 If you checked the appropriate box,

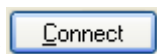


the ADSL Internet icon will have been created on the desktop.

Double-click this icon ; the following screen appears



- 2 Then click



- 3 Open your browser. **You can now surf the Internet.**

- 4 When the connection is set up, a triangular icon appears bottom right in the task bar.



4.1.3 Configuring the PPPoE client in MacOS® X

1

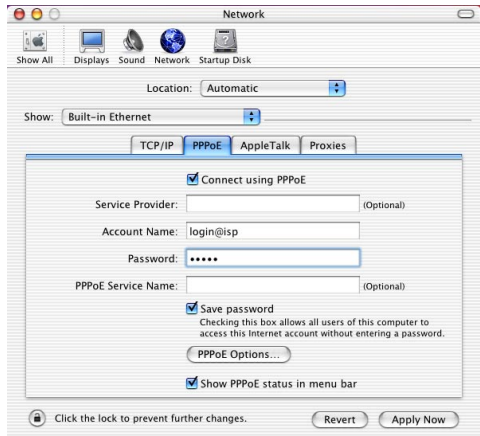


Click the (apple) menu in the menu bar, select **System Preferences**, then click the **Network** icon.

The following screen appears.

The **Location:** field should contain **Automatic**.

The **Show:** field should contain **Built-in Ethernet**.



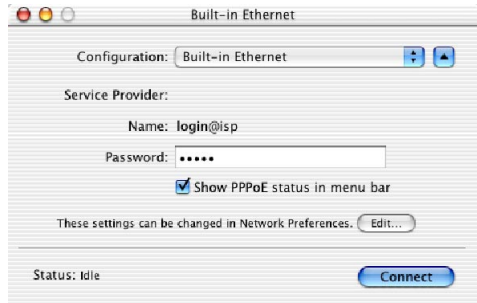
- 2 Select the **PPPoE** tag and the relevant panel appears.
- 3 Check the **Connect using PPPoE** box to force connection in PPPoE mode and enable you to complete the grayed out fields.
- 4 Complete the **Account Name** field with your user name.
- 5 Complete the **Password** field with your password.
Note: This "Account Name" and "Password" information will be provided to your by your Internet Access Provider (IAP).
- 6 It is advisable to check the **Show PPPoE status in menu bar** box.
- 7 Click **Apply now** to register your input.

4.1.4 Internet connection in MacOS® X

- 1 In the desktop, double-click the icon representing your Mac OS X hard disk. Open the **Applications** folder and then double-click the connection icon.



The screen opposite appears.



- 2 Check that the information contained in the **Configuration**, **Name** and **Password** fields is correct.
Click **Connect** to set up the connection.
- 3 Open your browser. **You can now surf the Internet.**

4.1.5 PPPoE client software not supplied with the operating system



You may find it on a separate installation CD-ROM. You may also find it on an installation CD-ROM taken from your IAP's kit.

This client software may appear in the list below:

- Friendly PPPoE®
- MacPoet®
- RasPPPoE
- Tango Access®
- WinPoet®

Contact your IAP for more information. Some software is available as Freeware on the Internet.

4.2 DHCP connection mode

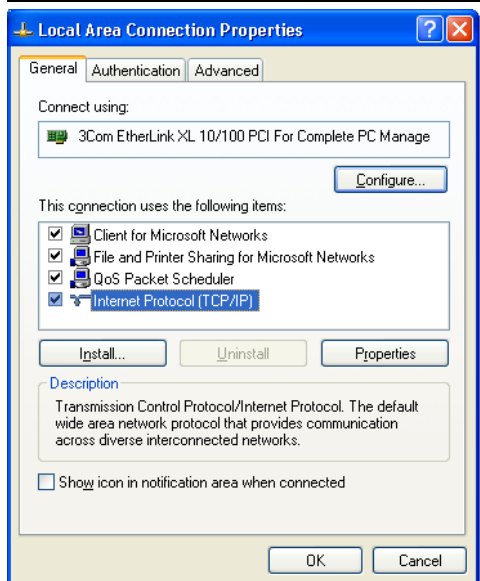
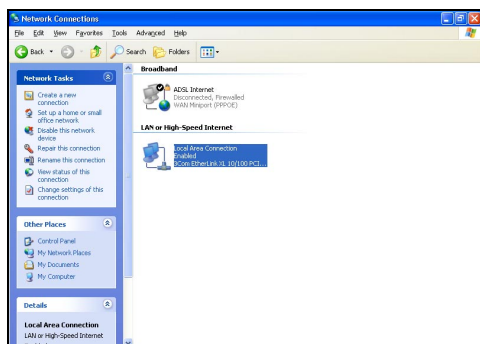
To connect your computer (PC or Mac) operating in DHCP client mode via its Ethernet interface to the SAGEM F@st™ 900 / 940, you must correctly configure the computer. This can be done irrespective of your computer's operating system.

Configuration entails assigning a public IP address to your computer (PC or Mac) by DHCP request.

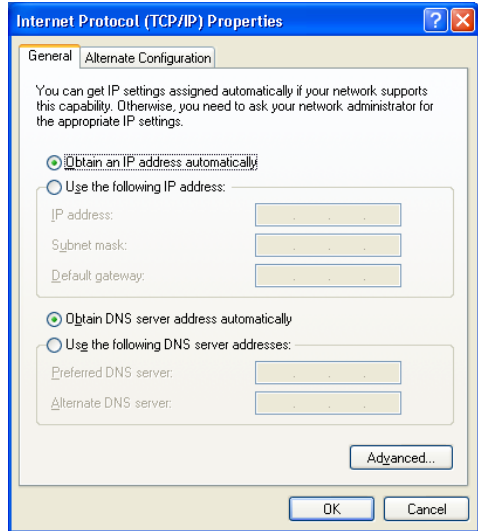
4.2.1 DHCP connection to PC

In **Windows® XP**, for example, proceed as follows:

- 1 • Select **Start / Connections / Show all connections**, and the screen opposite appears.
 - Select the local connection you want to use with the SAGEM F@st™ 900 / 940, then right click and select **Properties**.
- 2 The screen opposite appears.
 - Select the **General** tab and then the **TCP/IP** protocol, and click the **Properties** button.




- 3 The screen opposite appears.
- Select the **General** tab and then the **Obtain an IP address automatically** command and the **Obtain DNS server address automatically** command.
 - Click **OK** to confirm your choices.



4.2.2 DHCP connection to Mac

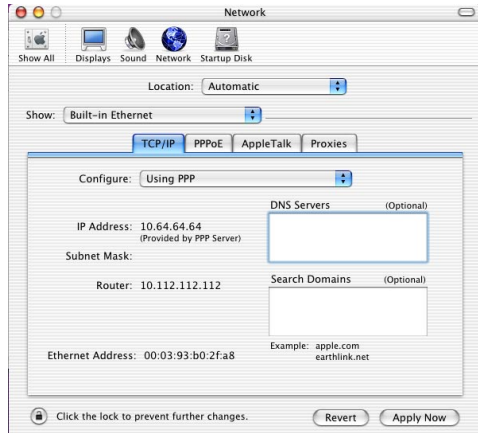
In **MacOS X**, for example, proceed as follows:

1

Click the  (apple) menu in the menu bar, select "**System Preferences**", then click the "**Network**" icon and the screen opposite appears.

The **Location**: field should contain **Automatic**.

The **Show**: field should contain **Built-in Ethernet**.



2 Select the **TCP/IP** tab and the relevant panel appears.

3 The **Configure**: field should contain **Using DHCP** by default. If not, select this setting from the drop down list.

Note: If the **Using PPP** setting appears, select the **PPPoE** tab, then uncheck the **Connect using PPPoE** box.

4 Click **Apply Now** to enable connection in DHCP mode.

Note: The **DHCP Client**, **DNS Servers** and **Search Domains** fields are optional.

5 Uninstalling the BridgeMon application

Procedures for uninstalling on PC in Windows XP and on MacOS X are described below.

5.1 Uninstalling in Windows XP



The procedure for **Uninstalling** described below is performed in **Windows® XP**. In other Windows® operating systems (98FE, 98SE, ME, 2000), the procedure may differ slightly.



To carry out the **uninstallation** procedure, **you must exit from the application** and delete the "BridgeMon" icon from the task bar. To do this, right click on the icon and select **Exit**.



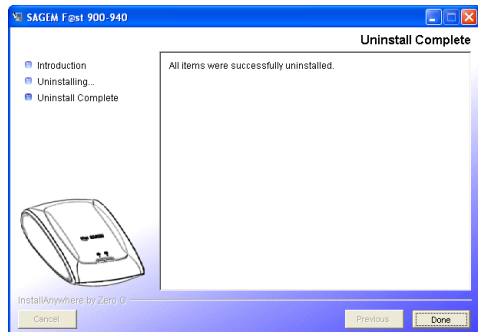
- 1 Select **Start / All programs / SAGEM F@st 900 / 940**, then **Uninstall**. The screen opposite appears.

Click the **Uninstall** button to continue with uninstallation.



- 2 The screen opposite appears. Click **Done**.

Uninstallation is now finished.



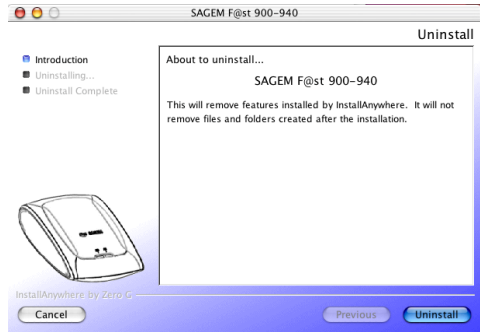
5.2 Uninstalling in MacOS X

1



Double-click the **Uninstall** icon to start the uninstallation program. The screen opposite appears.

Click the **Uninstall** button to continue uninstalling.



6 Troubleshooting

6.1 Interpreting LED indications


6.1.1 LEDs visible on the modem cover

| Marking | ADSL | PWR |
|------------|---------------------------------|-------------------|
| Assignment | ADSL link | Power supply |
| On steady | ADSL synchronized | Modem powered up |
| Off | No ADSL synchronization | Modem not powered |
| Blinking | Setting up ADSL synchronization | Not applicable |

6.1.2 "ETH" connector LEDs on the rear panel of the modem


| LED | Status | Meaning |
|-------|----------|--|
| Left | On | Indicates that the connection is OK and that the link is set up between the computer and the SAGEM F@st™ 900 / 940 modem |
| | Off | Incorrect connection |
| Right | Blinking | Traffic in progress (sending or receiving) |

6.2 No modem power supply

| LEDs | Flag | Status | Corrective action |
|---------------------|--|-------------------|---|
| ADSL off PWR off |  Red | Modem not powered | <p>Check that the modem is receiving power supply. Only the power supply unit supplied with the modem should be used.</p> <p>Check that your PSU's electrical specifications are compatible with your mains electricity network.</p> <p>Lastly, uninstall then reinstall the BridgeMon application.</p> |


6.3 Modem not detected

Firstly check that the conditions in the previous section are satisfied.

| LEDs | Flag | Status | Corrective action |
|--------------------|--|--|---|
| ADSL off PWR on |  Red | Modem powered. Modem not detected by your computer. | Check that the Ethernet cable supplied in your pack is correctly connected to your modem, and to an active Ethernet port on your computer. At both ends, you have Ethernet detection LEDs. The Ethernet cable to be used is a crossed UTP RJ45 cable. |



6.4 Absence of ADSL synchronization

Firstly check that the conditions in the previous section are satisfied.

| LEDs | Flag | Status | Corrective action |
|--------------------|---|---|--|
| ADSL off PWR on |  Yellow | Modem detected by your computer. ADSL not synchronized | Check the connection of your ADSL filters. Each of your installation's telephone sockets should be fitted with an ADSL filter. Check that the RJ11 type line lead supplied with your modem is connected to one of your sockets. It is best not to use any telephone line extension. Lastly, check with your IAP that the ADSL service is available on your telephone line. |

6.5 Internet connection not possible

Firstly check that the conditions in the previous section are satisfied.

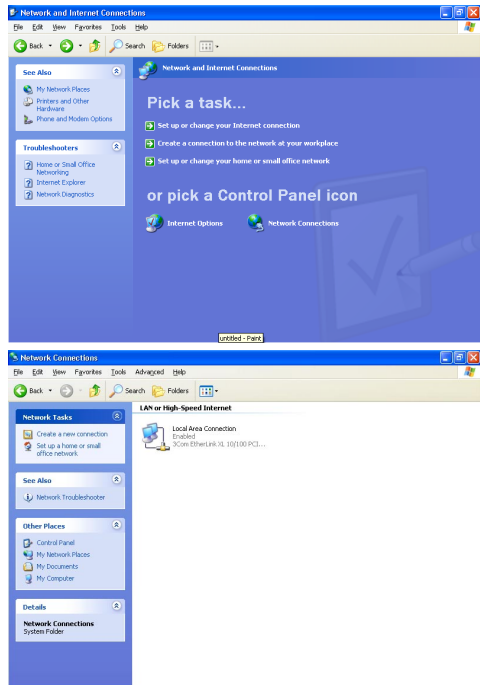
| LEDs | Flag | Status | Corrective action |
|-------------------|--|--|--|
| ADSL on PWR on |  Green | ADSL set up. Modem initialized Connection not possible | In PPPoE mode: Check that your PPPoE client software is correctly installed on your computer. In Windows XP, MacOS X, you can refer respectively to sub-sections 4.1.2 and 4.1.4 of this guide. For any other OS, look up the documentation supplied with the PPPoE client software you are using. If you have more than one Ethernet card on your computer, check that your PPPoE client is linked to the Ethernet card to which your modem is connected. |
| | | | In DHCP mode: Check that your computer correctly receives an IP address from the network. For this, in Windows, you can open a DOS window and type the command "ipconfig". Lastly, in your Web browser's properties, check that no remote network connection is selected by default. For Microsoft™ Explorer®: Menu: Tools/Internet options/ Select: "Never dial a connection" |
| ADSL on PWR on |  Lock | ADSL set up Modem locked. | You cannot access the Internet because the modem is in locked mode. You should refer to sub-section 3.5.4 to unlock your modem. |

6.6 Setting Firewall provided with Windows® XP

- 1 In the **Start** menu, select **Control panel, Network and Internet connections**; the screen opposite appears.

Click **Network connections**.

- 2 The screen opposite appears.
Right click on the used network card then select **Properties**.

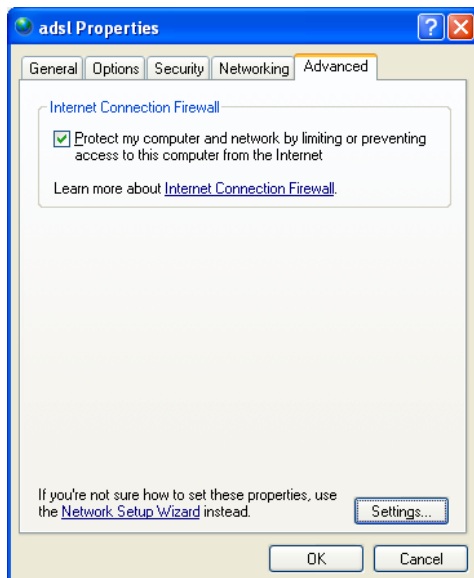


- 3 The screen opposite appears.

Select the panel **Advanced**.

Remark : When the firewall is activated, the box of Internet Connection Firewall field is checked and the **Settings** button is active.

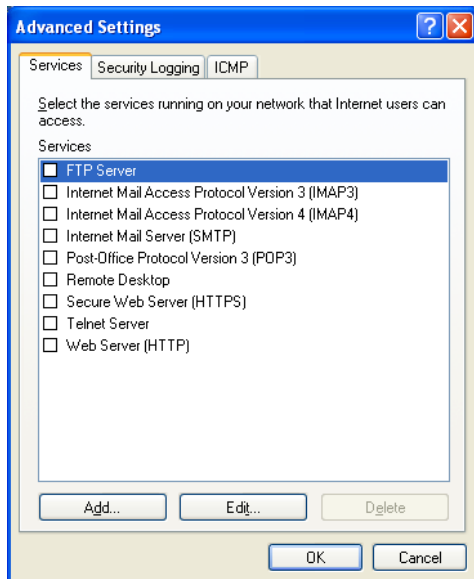
Click on the **Settings** button.



- 4 The screen opposite appears.

Select the panel **Services**.

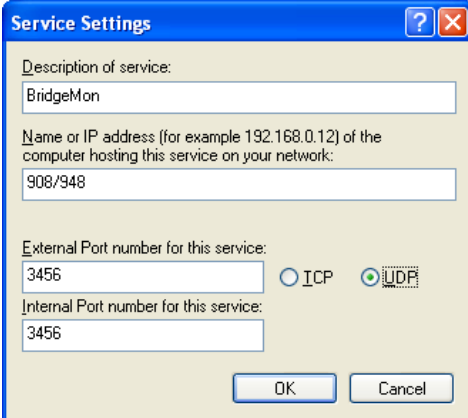
Click on the **Add** button.



5 The screen opposite appears.

Enter **3456** in the fields External Port number and Internal Port number allocated to the BridgeMon application and select **UDP** protocol for transport layer.

Note: The others fields must necessarily be filled in, but for their content, the user is left to form his opinion.



The image shows a 'Service Settings' dialog box with a blue title bar and standard window controls. It contains several text input fields and radio buttons. The 'Description of service' field is filled with 'BridgeMon'. The 'Name or IP address' field is filled with '908/948'. The 'External Port number for this service' and 'Internal Port number for this service' fields are both filled with '3456'. The 'UDP' radio button is selected, while the 'ICP' radio button is unselected. At the bottom right, there are 'OK' and 'Cancel' buttons.

| Field | Value |
|---|----------------------------------|
| Description of service: | BridgeMon |
| Name or IP address (for example 192.168.0.12) of the computer hosting this service on your network: | 908/948 |
| External Port number for this service: | 3456 |
| Internal Port number for this service: | 3456 |
| Protocol | ICP (unselected), UDP (selected) |

Appendice A - Safety instructions

Safety instructions



READ THE FOLLOWING INSTRUCTIONS CAREFULLY

Environment

- The SAGEM F@st™ 900 / 940 must be installed and used inside a building (for desktop use).
- The ambient temperature must not exceed 45°C.
- The SAGEM F@st™ 900 / 940 must not be exposed to strong sunlight or to a strong heat source.
- The SAGEM F@st™ 900 / 940 must not be placed in an environment subject to significant steam condensation.
- The SAGEM F@st™ 900 / 940 must not be exposed to splashed water.
- The SAGEM F@st™ 900 / 940 must not be covered.
- The SAGEM F@st™ 900 / 940's mains adapter unit must not be covered.

Maintenance

- Do not open the casing. This action is reserved only for qualified personnel, approved by your operator.
- Cleaning: Do not use liquid or aerosol-based cleaning products.

Power source

- The SAGEM F@st™ 900 / 940 modem is supplied with its own power supply unit. It must not be used with any other adapter.
- This Class II adapter requires no earth. The connection to the mains electricity supply must comply with the instructions on its label.
- Use a readily accessible power outlet, near to the modem. The power lead is 2 m long.
- Arrange the power lead in such a way as to ensure that the modem's power supply cannot be disconnected accidentally.

Safety levels

| | |
|-----------------------------|--------------------|
| Primary power supply port | HPV ¹ |
| Double pole mains AC socket | |
| DC power port | SELV ² |
| Miniature socket (PWR) | |
| RJ45 Ethernet port (ETH) | SELV |
| RJ11 line port (LINE) | TNV-3 ³ |



Products bearing this symbol are compliant with EMC regulations and with the Low Voltage Directive published by the Commission of the European Communities (DEC).

CE declaration

CE declaration of conformity

SAGEM SA declares that the **SAGEM F@st™ 900 / 940** product is compliant with the requirements of European directives 1995/5/CE and with the main requirements of directives 89/336/CEE dated 03/05/1989 and 73/23/CEE dated 19/02/1973.

The CE declaration of conformity for the **SAGEM F@st™ 900 / 940** is made in the context of the R&TTE directive.

¹ Hazardous Primary Voltage circuit

² Safety Extra Low Voltage circuit

³ Telecommunication Network Voltage level 3 circuit

Appendice B - Technical specifications

Hardware specifications

| Mechanical | | |
|--------------|------------|----------|
| Dimensions | Width | : 85 mm |
| | Depth | : 105 mm |
| | Thickness | : 32 mm |
| Weight | 120 g | |
| Installation | On desktop | |

| Power supply | |
|-----------------------|-----------------------------|
| Mains | |
| Type | : Wall mounted adapter unit |
| Class | : II |
| Mains voltage | : 198 V - 264 V |
| | : 50 Hz / 60 Hz |
| Output voltage | : 12 VDC |
| Absorbed power | : < 6 W |
| DC power input | |
| Voltage | 5 V - 20 V |
| Absorbed power | # 2.5 W |

| ETH interface | |
|---------------|-------------------------------|
| Specification | IEEE 802.3 |
| Configuration | Auto-negotiation 10/100BASE-T |
| | Half/Full Duplex |
| Data rate | 10/100 Mbps autosensing |
| | Range: 100m |
| Connectors | RJ45 - 8-pin |
| | Port: MDI type |

| ADSL interface | |
|-------------------------|---|
| Transmission code | DMT |
| Standards supported | ANSI T1.413 Issue 2 |
| | G.992.1 (G.DMT) - Appendice A for SAGEM F@st™ 900 and Appendice B for SAGEM F@st™ 940 |
| | G.992.2 (G.Lite) |
| | G.Handshake (Multimode) |
| Maximum upstream rate | 896 kbit/s |
| Maximum downstream rate | 8160 kbit/s |
| Latency | Simple (Fast or Interleaved) |

Climatic environment

Warehousing

| | |
|-------------------|----------------------------|
| Standard | ETS300 019-1-1, class T1.2 |
| Temperature | -25°C to +55°C |
| Relative humidity | 10 to 100% |

Transport

| | |
|-------------------|----------------------------|
| Standard | ETS300 019-1-2, class T2.3 |
| Temperature | -40°C to +70°C |
| Relative humidity | 10 to 100% |

Operation

| | |
|-------------------|--------------------------------------|
| Standard | ETS300 019-1-3, class T3.2 |
| Temperature | -5°C to +45°C |
| Relative humidity | 5 to 85% |
| Pressure | 84 hPa to 106 hPa (880 to 1060 mbar) |
| Solar radiation | 700 W/m ² |

Mechanical environment

| | |
|-------------|--------------|
| Standard | ETS300 019-1 |
| Warehousing | Class T1.2 |
| Transport | Class T2.3 |
| Operation | Class T3.2 |

Physical/chemical environment

| | |
|-------------|--------------|
| Standard | ETS300 019-1 |
| Warehousing | Class T1.2 |
| Transport | Class T2.3 |
| Operation | Class T3.2 |

Software specifications**ATM**

| | |
|--------------------|---------------|
| Signaling | PVC |
| Adaptation layer | AAL5 |
| Number of VCs | 1 |
| OAM management | OAM F4 and F5 |
| Quality of service | UBR |

Encapsulation protocols

| | |
|------------------------|--------------|
| RFC 1483 / 2684 Bridge | VCMUX or LLC |
| RFC 2516 (PPPoE) | VCMUX or LLC |

PC, Mac and Linux compatibility

PC

Windows® 98 FE

Windows® 98 SE

Windows® 2000

Windows® Millénium

Windows® XP

Windows® NT

Mac

OS 8.6

OS 9.04, OS 9.1, OS 9.2

OS X (10.1 & 10.2)

Linux

Mandrake 8.2 to 9.0

RedHat 7.2 to 8.0

Default configuration

BridgeMon application

Bridge Lock function **Off**

WAN characteristics

Automatic configuration

User name and password

No default configuration. These are supplied by your Internet Access Provider (IAP).

Appendix C - Glossary

| | |
|-------|--|
| AAL5 | ATM Adaptation Layer type 5 |
| ADSL | Asymmetric Digital Subscriber Line |
| ARP | Address Resolution Protocol |
| ATM | Asynchronous Transfer Mode |
| BAS | Broadband Access Server |
| CO | Central Office |
| DHCP | Dynamic Host Configuration Protocol |
| DSLAM | Digital Subscriber Line Access Multiplexer |
| IAP | Internet Access Provider |
| IP | Internet Protocol |
| ISDN | Integrated Service Digital Network |
| ISP | Internet Service Provider |
| LAN | Local Area Network |
| LLC | Logical Link Control (Encapsulation with header) |
| MAC | Medium Address Control |
| OAM | Operation, Administration and Maintenance |
| OUI | Organization Unique Identifier |
| PCR | Peak Cell Rate |
| POTS | Plain Old Telephone Service |
| PPP | Point to Point Protocol |
| PPPoA | PPP over ATM |
| PPPoE | PPP over Ethernet |
| PVC | Permanent Virtual Channel |
| QoS | Quality of Service |
| RARP | Reverse Address Resolution Protocol |
| RFC | Request For Comments |
| RJ11 | Standard 6-pin miniature socket |
| RJ45 | Standard 8-pin miniature socket |
| SNAP | SubNetwork Attachment Point |
| TCP | Transmission Control Protocol |
| UBR | Unspecified Bit Rate |
| UDP | User Datagram Protocol |
| VC | Virtual Channel |
| VCI | Virtual Channel Identifier |

| | |
|-------|--------------------------------|
| VCMUX | Encapsulation (without header) |
| VP | Virtual Path |
| VPI | Virtual Path Identifier |
| WAN | Wide Area Network |

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SAGEM SA - Société anonyme à directoire et conseil de surveillance au capital de 33.300.000 €